

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-9 (Canceled).

10. (Currently Amended) A method for measuring distance and velocity at a plurality of objects using FMCW radar, the method comprising:

cyclically repeating, in measuring cycles, measurements of the objects using at least two different frequency ramps, wherein in each of the measurements, a transmitted signal is mixed with a received signal to provide a mixed signal, and a spectrum of the mixed signal is recorded;

performing a matching procedure, in which peaks that are in the spectra are recorded for various ramps and that belong to the same object are allocated to each other, and the distances and velocities of the objects are calculated from frequencies of the peaks; and

performing a tracking procedure, in which the objects measured at various times are identified with one another based on consistency of their distance and velocity data;

wherein:

each of the measuring cycles includes not more than three measurements with different frequency ramps; [[,]]

for each plausible combination of two peaks, of which one was recorded during a first measurement and another of which was recorded during a second measurement of the same cycle, a distance and a velocity of one possible object represented by these peaks are calculated; [[,]]

an anticipated result of at least one further measurement is calculated from the distance and the velocity of the possible object; [[, and]]

the possible object is discarded if at least one anticipated result does not agree with a measured result; and

three measurements are performed in each measuring cycle, and the further measurement is a third measurement, in which a modulation duration of the frequency ramp is greater than for the first and second measurements.

11-14. (Canceled).

15. (Currently Amended) The method of claim 10 [[14]], wherein the anticipated result of the further measurement is the frequency of a peak in the spectrum, which is recorded in this measurement.

16. (Currently Amended) The method of claim 10 [[14]], wherein an anticipated result is also calculated for the first and second measurement in another measuring cycle and compared to the actual result.

17. (Currently Amended) The method of claim 10, wherein a comparison with results of the further measurements is performed also for a plurality of successive measuring cycles.

18. (Currently Amended) A [[The]] method for measuring distance and velocity at a plurality of claim 17 objects using FMCW radar, the method comprising:

cyclically repeating, in measuring cycles, measurements of the objects using at least two different frequency ramps, wherein in each of the measurements, a transmitted signal is mixed with a received signal to provide a mixed signal, and a spectrum of the mixed signal is recorded;

performing a matching procedure, in which peaks that are in the spectra are recorded for various ramps and that belong to the same object are allocated to each other, and the distances and velocities of the objects are calculated from frequencies of the peaks; and

performing a tracking procedure, in which the objects measured at various times are identified with one another based on consistency of their distance and velocity data;

wherein;

each of the measuring cycles includes performance of three and not more than three measurements with different frequency ramps;

for each plausible combination of two peaks, of which one was recorded during a first measurement and another of which was recorded during a second measurement of the same cycle, a distance and a velocity of one possible object represented by these peaks are calculated;

an anticipated result of at least one further measurement is calculated from the distance and the velocity of the possible object;

the further measurement is a third measurement, in which a modulation duration of the frequency ramp is greater than for the first and second measurements;

a comparison with results of the further measurements is performed also for a plurality of successive measuring cycles; and

each object is assigned a plausibility parameter which is increased when the anticipated result agrees with a measured result from another measuring cycle, and which is reduced when the anticipated result does not agree with any of the measured results, and the object is [[only]] discarded conditional upon that at least one anticipated result does not agree with a measured result and that [[when]] the plausibility parameter drops below a predefined threshold value.